

**I (WE) CLAIM:**

1. A cable for reducing crosstalk during ultrasound continuous wave operation, the cable comprising:
  - a first group of ultrasound signal conductors;
  - a second group of ultrasound signal conductors, the ultrasound signal conductors of the second group different conductors than the ultrasound signal conductors of the first group; and
  - a conductive separation layer separating the first group of ultrasound signal conductors from the second group of ultrasound signal conductors.
2. The cable of Claim 1 further comprising:
  - a first plurality of ultrasound transducer elements connected with the first group of ultrasound signal conductors; and
  - a second plurality of ultrasound transducer elements connected with the second group of ultrasound signal conductors, the first plurality different than the second plurality.
3. The cable of Claim 1 further comprising:
  - a transmit beamformer connectable with the first group of ultrasound signal conductors; and
  - a receive beamformer connectable with the second group of ultrasound signal conductors.
4. The cable of Claim 1 wherein the first group of ultrasound signal conductors comprises a transmit bundle and the second group of ultrasound signal conductors comprises a receive bundle.
5. The cable of Claim 1 wherein the first and second groups of ultrasound signal conductors comprise coaxial cables.

6. The cable of Claim 1 wherein each of the first and second groups of ultrasound signal conductors comprise at least one ribbon of conductors.
7. The cable of Claim 1 wherein the conductive separation layer comprises a braided shield around the first group of ultrasound signal conductors.
8. The cable of Claim 1 wherein the conductive separation layer comprises one or more ribbons of grounded conductors around the first group of ultrasound signal conductors.
9. The cable of Claim 1 wherein the ultrasound signal conductors are selected from the group of: coaxial cable, ribbon wire, flex trace, twisted pair, bundled wire and combinations thereof.
10. The cable of Claim 1 further comprising an additional conductive RFI shield layer around both the first and second groups of ultrasound signal conductors.
11. The cable of Claim 1 wherein the conductive separation layer is around the first group of ultrasound signal conductors and the second group of ultrasound signal conductors is positioned around a circumference of the conductive separation layer.
12. A method for reducing crosstalk during ultrasound continuous wave operation, the method comprising:
  - (a) transmitting ultrasound signals along a first group of conductors for a transmit aperture;
  - (b) receiving ultrasound signals along a second group of conductors for a receive aperture; and
  - (c) separating the first group of conductors from the second group of conductors by a conductive shield.

13. The method of Claim 12 wherein (a) comprises transmitting at a first peak voltage or higher and (b) comprises receiving the ultrasound signals at a second peak voltage less than the first peak voltage.

14. The method of Claim 12 wherein (a) and (b) are performed at a same time.

15. The method of Claim 12 wherein (c) comprises positioning the conductive shield around the first group of conductors.

16. The method of Claim 12 wherein (c) comprises positioning the conductive shield around the second group of conductors.

17. The method of Claim 12 wherein (c) comprises positioning the conductive shield between the two groups of conductors.

18. The method of Claim 12 further comprising:

(d) grounding the conductive shield.

19. An ultrasound system for reduced crosstalk in continuous wave Doppler ultrasound data acquisition, the system comprising:

a first group of conductors connectable with a respective first group of transducer elements in a transmit aperture;

a second group of conductors connectable with a respective second group of transducer elements in a receive aperture; and

a conductive shield separating the first group from the second group.

20. The system of Claim 19 wherein the conductive shield comprises a tube of braided conductors with one of the first and second groups of conductors within the tube and the other of the second and first groups of conductors outside of the tube.

21. The system of claim 19 further comprising an additional RFI shielding layer around all signal conductors.
22. The system of Claim 19 further comprising a protective cable covering around the first and second groups of conductors, the conductive separation layer and the additional RFI shielding layer.
23. The cable of Claim 1 wherein the separation layer is selected from the group of: braid, metalized polymer, foil, ribbon wire, served wire and combinations thereof.